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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 4120 (1967): Tubs and Baths [MTD 31: Utensils, Cutlery and Domestic Hardwares]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard
SPECIFICATION FOR
TUBS AND BATHS

REAFFIRMED

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INDIAN STANDARDS INSTITUTION
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Indian Standard

SPECIFICATION FOR TUBS AND BATHS

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Indian Standard

SPECIFICATION FOR TUBS AND BATHS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 26 May 1967, after the draft finalized by the Domestic Hardware Sectional Committee had been approved by the Consumer Products Division Council.

0.2 Two alternate shapes, for bottom ring, that is, one with rivets and the other without rivets, are mentioned in this standard. The manufacturer may use any shape but the second shape is preferred over the first due to its being more compact and without rivet holes.

0.3 In preparing this standard, assistance has been derived from the following specifications issued by the Chief Inspectorate of General Stores, Ministry of Defence, Government of India:

IND/GS/DRG/121	Bath, hip.
IND/GS/DRG/152	Bath, children.
IND/GS/805	Bath, long open.
IND/GS/1097	Bath, foot.
IND/GS/DRG/1154 (a)	Tub, washing.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard covers the materials, shapes, dimensional and other requirements of bath, children; bath, hip; bath, foot; bath, arm; bath, oval and tub, washing; used in hospitals and for general domestic purposes.

2. MATERIALS

2.1 The baths and tubs shall be made from one of the following materials:

<i>Material</i>	<i>Conforming to</i>
Mild steel sheet	IS : 1079-1963†
Galvanized iron sheet	Class 3 of IS:277-1962‡

*Rules for rounding off numerical values (*revised*).

†Specification for hot-rolled carbon steel sheet and strip (*revised*).

‡Specification for galvanized steel sheets (plain and corrugated) (*revised*).

3. SHAPES AND DIMENSIONS

3.1 The shapes and dimensions shall be as given in Fig. 1 to 7.

3.1.1 The thickness of sheets and sizes of channel, bars and rivets shall be as given below:

	mm
Body	1.00
Bottom	1.25
Bottom ring:	
a) Outer	1.60
b) Inner	3.15
Handle:	
a) Half round channel, dia	15.00
b) Round bar, dia	6
Rivets (galvanized), flat head	5 × 12

4. MANUFACTURE AND WORKMANSHIP

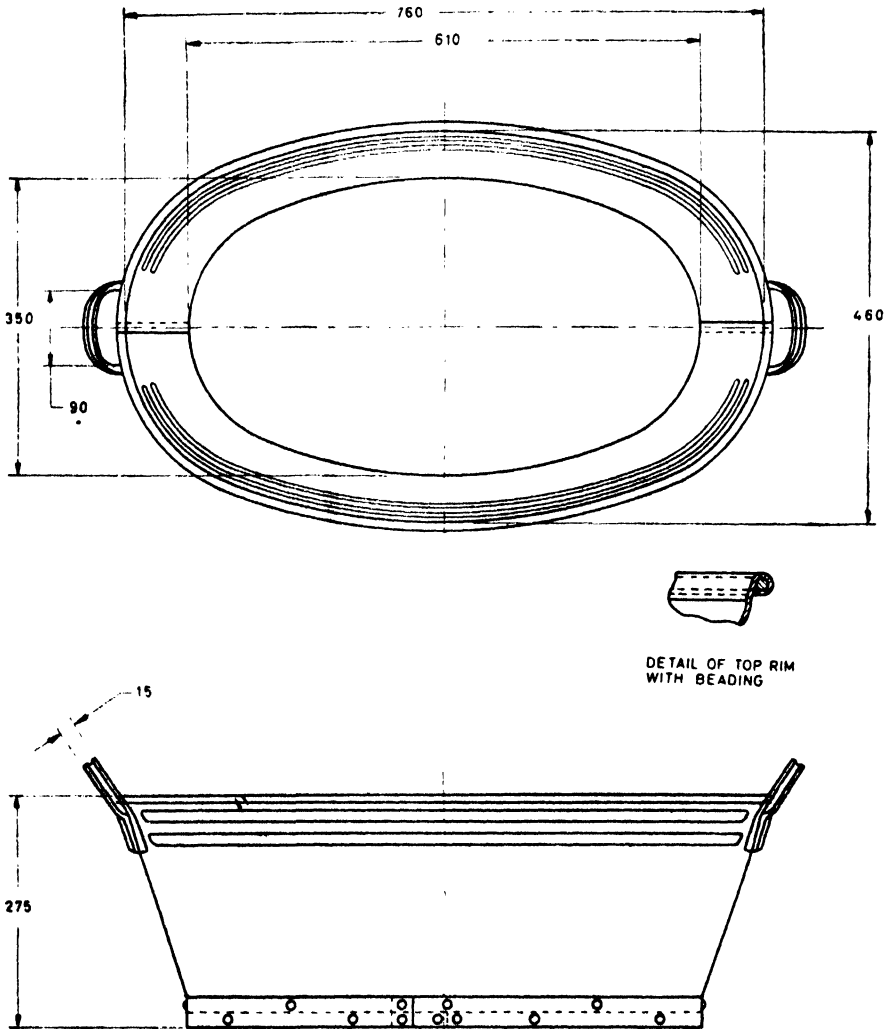
4.1 The body of the baths and tubs shall be made in two pieces with seams at opposite ends. The bottom shall be made from one piece. The parts of baths and tubs made from mild steel sheet shall be joined either by butt welding or by lock joint, and if made of galvanized sheet they shall be joined by lock joint. The width of the seam shall be not less than 12 mm. The ends of the bottom ring shall be joined together by at least two rivets and fitted over the body tightly with or without rivets (see Fig. 7). The rivets shall be well-drawn out and snapped on the outside. The top rim shall be properly beaded with wire.

4.1.1 The mild steel sheet tubs and baths shall be hot-dip galvanized after fabrication. Galvanized sheet tubs and baths shall be given good quality aluminium coating at places where galvanized coating goes off while riveting. There shall be no rough or sharp edges. All the joints shall be free from splits, surface flaws and jagged edges.

5. TESTS

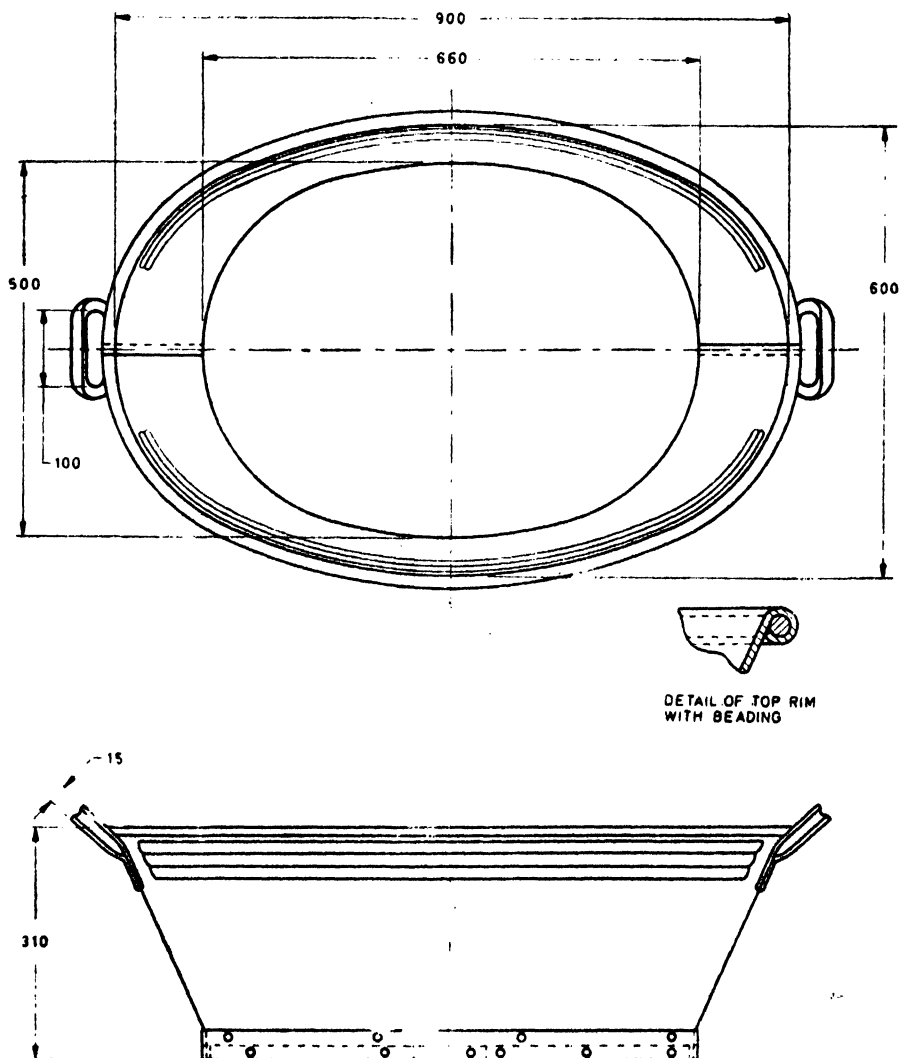
5.1 **Galvanized Coating Test (Determination of Uniformity of Coating)** — The test piece shall not show any permanent red deposit of copper upon the base metal when tested in accordance with Section II of IS : 2633-1964*. A false red deposit of copper may be tested on the sample by immersing in a solution of dilute hydrochloric acid (1 : 10) for 15 seconds followed by immediate rinsing in clean running water with vigorous scrubbing, or tested for adherence by peeling or light rubbing. If the copper has been removed and zinc appears underneath, it is a false end point and the sample does not fail.

*Methods of testing weight, thickness and uniformity of coating on hot-dipped galvanized articles.



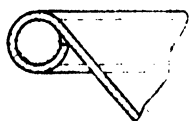
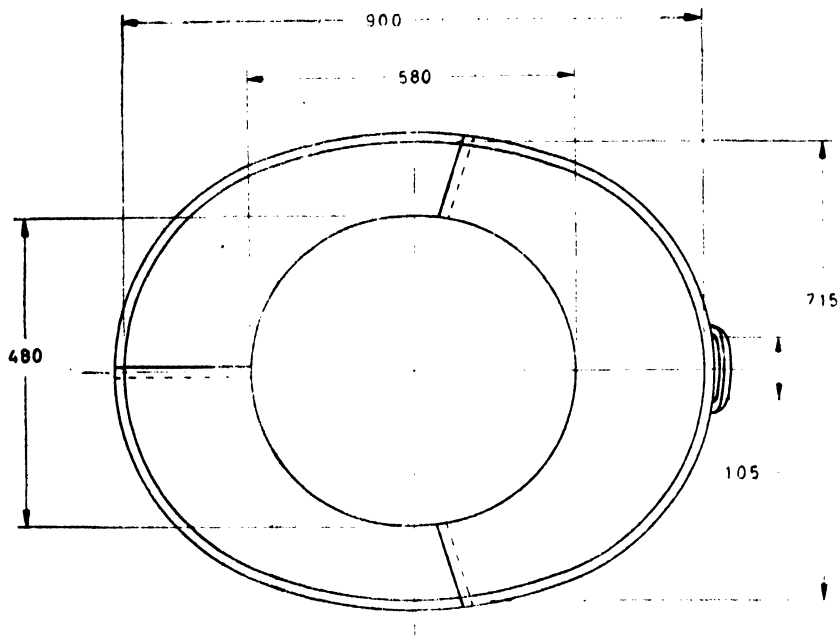
All dimensions in millimetres.

FIG. 1 BATH, CHILDREN

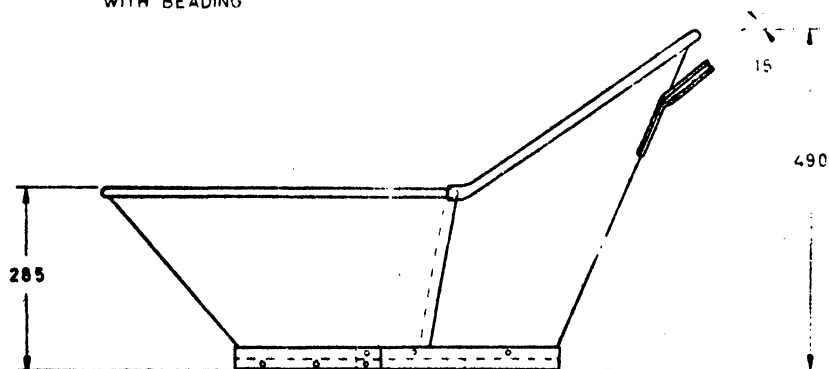


All dimensions in millimetres.

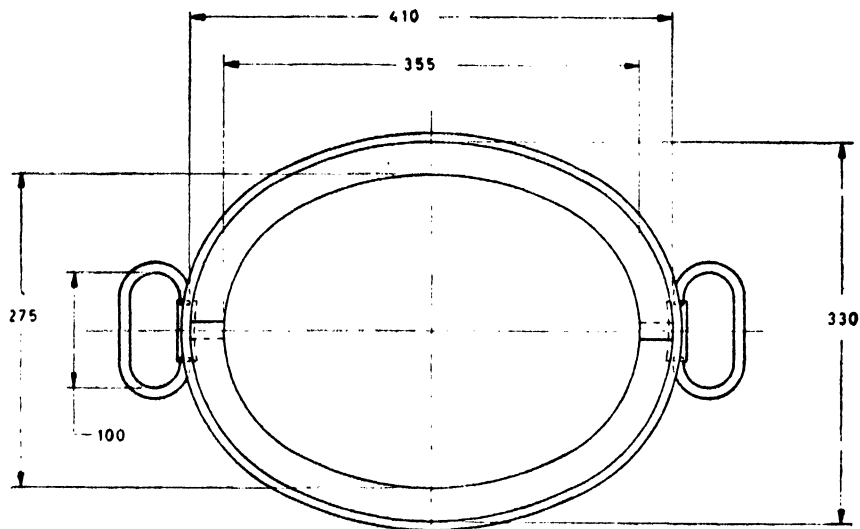
FIG. 2 BATH, OVAL



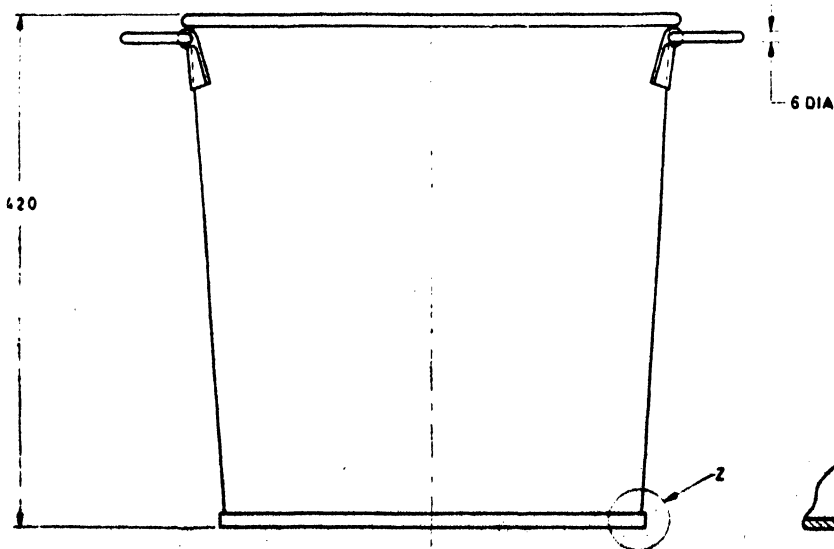
DETAIL OF TOP RIM
WITH BEADING



All dimensions in millimetres.
FIG. 3 BATH, HIP



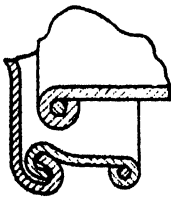
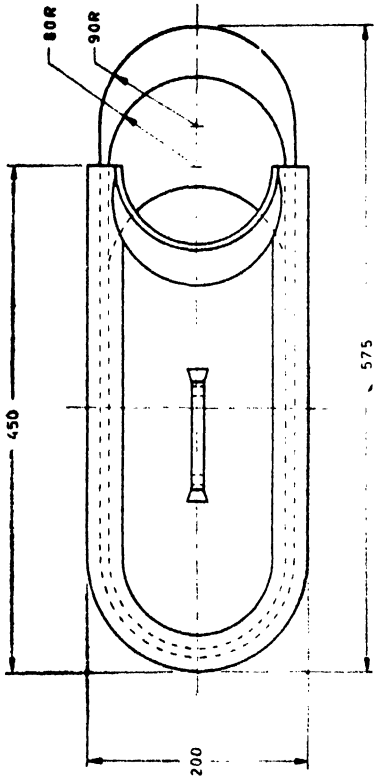
DETAIL OF TOP RIM
WITH BEADING



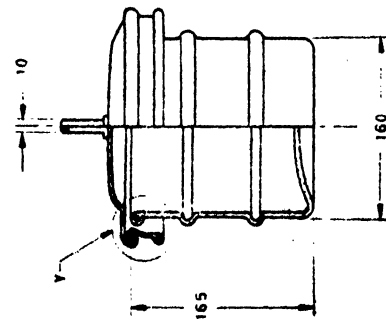
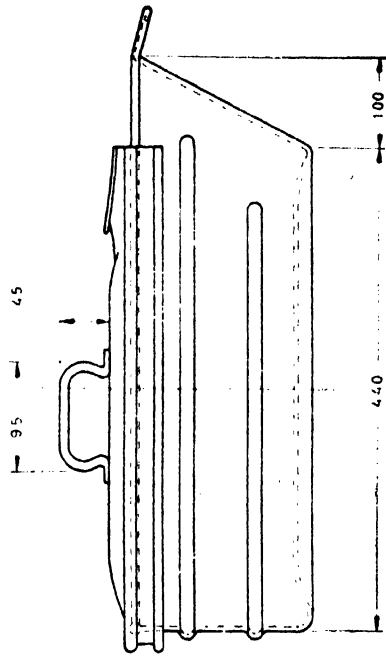
DETAIL AT Z

All dimensions in millimetres.

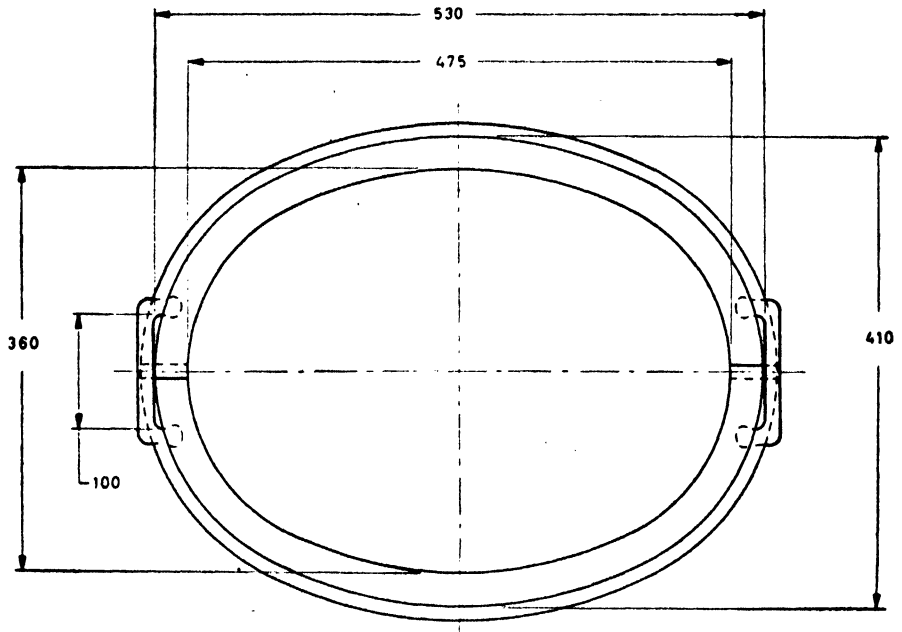
FIG. 4 BATH, FOOT



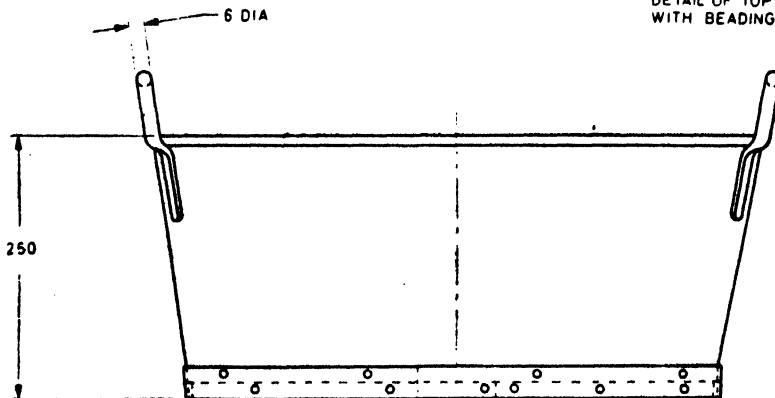
DETAIL AT Y



All dimensions in millimetres.
FIG. 5 BATH, ARM



DETAIL OF TOP RIM
WITH BEADING



All dimensions in millimetres.
FIG. 6 TUB, WASHING

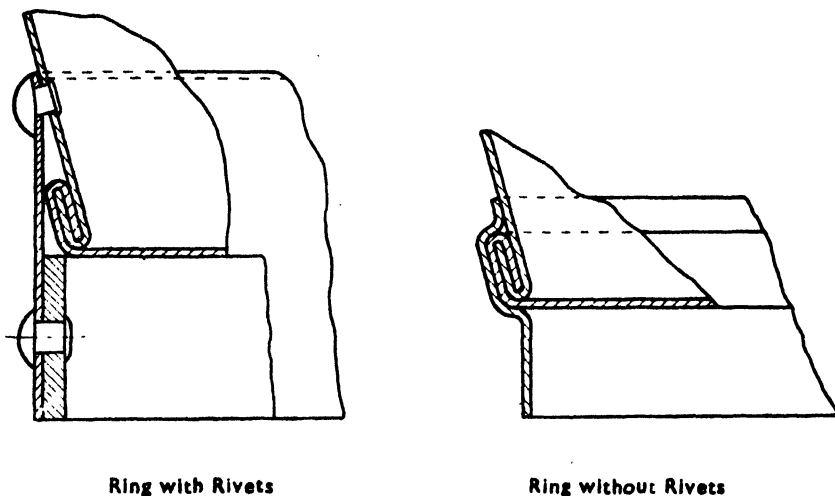


FIG. 7 DETAIL OF BOTTOM RING JOINT FOR FIG. 1, 2, 3 AND 6

5.2 Leakage Test — The baths and tubs shall be filled to the top with water. There shall be no leakage of water when kept for 2 hours.

6. MARKING

6.1 Each bath and tub shall be clearly and indelibly marked with manufacturer's name, initials or registered trade-mark.

6.1.1 The baths and tubs may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

INDIAN STANDARDS INSTITUTION

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